


Joint Ammunition Life Cycle Management Command (JA LCMC)

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Soldiers from Headquarters Co., 2-7 Cavalry, 2nd Brigade Combat Team, 1st Cavalry Division, conduct combat operations near Fallujah, Iraq, Nov. 12, 2004. Digital fire control systems such as MFCS will incorporate up-to-date ballistics characteristics and significantly improve weapon systems accuracy, responsiveness and survivability. (U.S. Army photo by SFC Johancharles Van Boers.)



Acquisition and life-cycle management of ammunition as a “system” is an established practice for all Ammunition Enterprise (AE) partners. The AE was established following PEO Ammunition’s creation. The AE is a partnership between PEO Ammunition, Joint Munitions Command (JMC) and the Research, Development and Engineering Command’s Armament Research Development and Engineering Center (ARDEC). The AE concept was defined Jan. 28, 2004, by our first Memorandum of Understanding (MOU) and was the culmination of 12 months of intensive partnering workshops. The AE put in place the same tenets that are now found in the LCMC concept. The ammunition community realized the need and benefit of creating an alliance to quickly meet warfighter requirements. The AE partnership shares a common strategic plan and vision — “Battlespace Dominance for the Warfighter With Superior Munitions.”

An Aug. 2, 2004, Memorandum of Agreement formally established the four LCMCs, further reinforcing the concept already in practice within the ammunition community. Ammunition life-cycle management is executed today through the jointly established AE MOU and forms the baseline implementation plan for the JA LCMC. This AE MOU formalizes a business climate of cooperation by combining key people, components, organizations, infrastructures and processes. The AE MOU establishes partnership responsibilities, a management concept, communications, the ammunition portal, metrics, customer interfaces and business processes that are paramount to the success of integration and synchronization. The shared AE philosophy and dedication to Lean/Six Sigma principles provide a disciplined, structured approach for process and product optimization that is focused on effectiveness and efficiency. More details regarding the AE can be found in the July-August 2004 issue of *Army AL&T Magazine*.

Beyond the AE MOU, other components are necessary to ensure JA LCMC's continued success — process improvements and documentation, AE strategic planning, Lean/Six Sigma deployment and establishment of an AE management structure. These are instrumental activities that bring the three partners together for AE-wide issues and decisions.

As the AE furthers its deployment, our sister LCMCs will face common

challenges and they will benefit from our experience and our ability to identify potential obstacles during implementation. We will continue to promote common processes and the open exchange of ideas and solutions across all LCMCs.

The AE will always continue efforts to improve ammunition readiness and enhanced support to our Joint warfighters. In addition to providing munitions to the Army, the AE is also DOD's Executive Agent for conventional ammunition and has been designated as the Single Manager for Conventional Ammunition as

highlighted in Figure 1.

The AE partnership is committed to further enhancing integration, communication and feedback necessary for

continued process improvement. Insight into urgent and routine warfighter needs is obtained through the 24/7 Operations Center, Logistics Assistance Representatives, service liaisons, Committee for Ammunition Logistics Support workshops and periodic environmental scans. The AE also uses the Joint Ordnance Commanders Group and the Executive Director Conventional Ammunition for maintaining continuous dialogue to gain understanding of our sister service's needs as we execute the SMCA mission.

The AE has been instrumental in responding to current needs and requirements, whether it is through early fielding of concepts, purchasing additional assets or returning to service assets that have been recapitalized.

The AE, as the JA LCMC, is positioned and ready to resolve new and existing challenges. Routinely, the AE works toward implementing solutions and accepting challenges resulting

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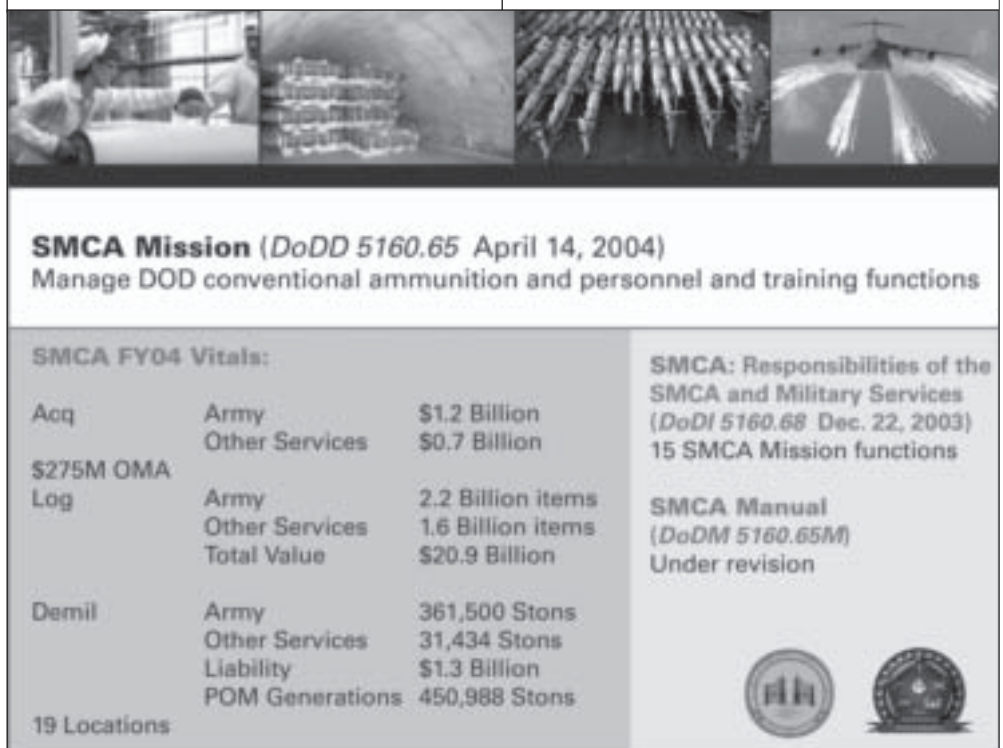


Figure 1. Single Manager for Conventional Ammunition (SMCA)



This Stryker Mortar Carrier was put through its paces during a Live-Fire Exercise at St. Vith Range, Fort Knox, KY, during the annual Acquisition Senior Leaders' Conference, Aug. 12, 2004. The Stryker Mortar variant will use the PM Mortar System Mortar Fire Control System to provide fire control autonomy, navigation capability, on-board weapon pointing and location, digital ballistic calculations and digital messaging. (U.S. Army photo by Mike Roddin.)

from new development feedback, lessons learned from *Operations Enduring Freedom* and *Iraqi Freedom (OEF/OIF)*, and required and changing logistics needs — all with the single goal of providing better support to warfighters. The AE's demonstrated success in response to Sept. 11, 2001, the global war on terrorism and *OEF/OIF* are real-world examples of how an integrated approach is able to provide a better product, more quickly and at the right cost. Current AE initiatives and successes will be discussed in greater detail.

Munitions Readiness Report (MRR)

The MRR was an outcome from Sept. 11, 2001. At that time, the Army had no automated tool to assess its ability to provide ammunition to support contingency operations. The MRR was developed to portray our ability to

support warfighter readiness, and allows an assessment of current problems and areas at risk out to 24 months in 6-month intervals. The MRR currently measures readiness in four areas:

- S — On-hand assets
- R — Serviceability
- Q — Quality
- B — Industrial base

Based on senior leaders' guidance to create a clearer picture of training and warfighting capabilities, an MRR Integrated Product Team was established to review all MRR aspects. Significant methodology changes are underway that will enhance the Army's ability to assess munitions readiness. The MRR

provides a common tool for the AE to address readiness. On-hand asset posture is linked to ammunition acquisition programs. PEO Ammunition develops acquisition and funding strategies that address shortfalls in stock while ARDEC looks for technology solutions to meet readiness.

Providing Ammo Solutions and Technology to Warfighters

Reliance upon communication from the field is vital to the AE to effectively provide warfighters with the necessary technology and products to meet their current and changing needs. Routinely, ARDEC works with the program

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managers (PMs) and other AE partners to respond to field requirements either in the form of a new development or as enhancements to existing systems. Continual product performance and product improvement is an AE priority. In fact, ARDEC has taken the lead in weapon system digitization.

Effective fire control systems are required to ensure that the full performance capabilities of ammunition are realized. Digital fire control systems that incorporate up-to-date ballistic characteristics for the full inventory of ammunition significantly improve weapon system accuracy, responsiveness and survivability.

The Mortar Fire Control System (MFCS), developed by PM Mortar Systems through an in-house effort with ARDEC, provides Soldiers with fire control autonomy for a fielded mortar weapon system. MFCS includes a capability for navigation, on-board weapon pointing and location, digital ballistic calculations and digital messaging. The first fielding of the M95/M96 MFCS in an M1064 Mortar carrier was to the U.S. Army

1st Cavalry Division at Fort Hood, TX, in May 2003. The same fire control system, with modified ballistics, was applied to the Stryker Mortar variant that will soon be fielded.

A related effort to replace the aging M23 Mortar Ballistic Computer hosts MFCS software on a totally different computer — a Personal Digital Assistant device. That successful effort led to an Urgent Material Release of the XM32 Lightweight Hand-held Mortar Ballistic Computer (LHMBC) in July 2004, providing Soldiers with the ability to accurately fire the latest 60mm, 81mm and 120mm ammunition.

Small Caliber Ammo Enterprise Solution

Over the past several years, there has been a significant increase in the demand for small arms ammunition. Since 1999, the requirements have risen by approximately 400 percent and have exceeded our organic

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industrial base's capability to produce it. The principal driver is training, which accounts for 75-80 percent of the total service small arms requirements. Following Sept. 11, 2001, the Army Chief of Staff directed an immediate increase in small arms weapons training in preparation for combat operations. The AE has risen to the challenge of meeting these demands.

Led by PM Maneuver Ammunition Systems, a 1-2-3-4 acquisition strategy was developed to position the Army to support a potential 2 billion round per year requirement as follows:

- First, Lake City Army Ammunition Plant (LCAAP), MO, production was ramped up to its current rate of 1.2 billion rounds annually. LCAAP is, and will continue to be, the primary supplier of small caliber ammunition.
- To supplement LCAAP in FY04, a series of urgent buys for more than 300 million rounds were awarded to several international commercial sources. After an upcoming FY05 award to a second source prime contractor, that contractor will provide up to 300 million additional rounds annually.
- The AE will expand the LCAAP capacity to 1.5 billion rounds annually by March 2006.
- The second source prime contractor will position to surge production of an additional 200 million rounds per year.

These four steps equal an AE capability of providing up to 2 billion rounds of small caliber ammo per year to



The new XM32 Lightweight Hand-Held Mortar Ballistic Computer (LHMBC) will replace the aging M23 Mortar Ballistic Computer on the front lines. The LHMBC will run the new MFCS software and will enhance mortar firing accuracy and lethality on the modern battlefield. (U.S. Army photo.)



The XM32 LHMBC will provide Soldiers with the ability to accurately fire the latest 60mm, 81mm and 120mm ammunition. (U.S. Army photo.)

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America's warfighters. In parallel with the FY04 urgent buys, approximately 120 million rounds of existing NATO-certified UK stocks were procured for the United Kingdom, over half of which were supplied directly to Kuwait to support the war in Iraq. In areas of new technology, efforts are now underway to improve 5.56mm ammo lethality and develop environmentally friendly lead-free small caliber ammunition.

Through integration of acquisition, logistics and technology, the AE is providing solutions for meeting small caliber demands and, ultimately,

warfighter requirements. The AE priority is readiness and support to warfighters. As such, the AE partnership is committed to the successful establishment of a JA LCMC to further enhance the integration, communication and feedback necessary for continued process improvement across the enterprise.



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